



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
1655 Heindon Road
Arcata, CA 95521-4573

In response, reply to:
I/SWR/2012/02798

AUG 09 2012

J. Sharon Haywood
Forest Supervisor
Shasta-Trinity National Forest
United States Department of Agriculture
3644 Avtech Parkway
Redding, CA 96002

Dear Ms. Haywood:

On June 14, 2012, NOAA's National Marine Fisheries Service (NMFS) received the United States Forest Service Shasta-Trinity National Forest's (STNF) letter and associated biological assessment (BA; Smith 2012) requesting initiation of informal consultation on the Trinity Alps Wilderness Prescribed Fire Project (Trinity Alps Prescribed Fire Project or project), pursuant to § 7(a) (2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 *et seq.*), and its implementing regulations (50 CFR Part 402). This letter constitutes informal consultation for federally threatened Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*; 70 FR 37160, June 28, 2005) and their designated critical habitat (64 FR 24049, May 5, 1999).

The STNF also requested consultation on essential fish habitat (EFH) for species managed under the Pacific Coast Salmon Fishery Management Plan (FMP), pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1855(b). This letter also constitutes EFH consultation for species managed under the Pacific Coast Salmon FMP.

Proposed Action

The STNF (federal action agency) proposes to treat approximately 19,088 acres with a prescribed burn. The purpose of the project is to reduce the risk of wildfire in a wilderness area. The project is scheduled for implementation in fall 2012 dependent upon appropriate weather conditions (cool temperatures, damp ground, and imminent rain in the forecast). The proposed action includes prescribed fire treatments, existing trail and fire line maintenance, and hazardous tree removal. It is anticipated that the project will take between 6 to 10 years for completion.



Prescribed Fire Treatments

In order to reduce the risk of wildfire, approximately 19,088 acres will be treated with a prescribed burn using hand-held drip torches or aerial ignition to reduce fuel loads (Figure 1). Drip torches will be used along ridgelines. Aerial lighting consists of deploying plastic balls containing potassium permanganate injected with ethylene glycol ejected from a helicopter, or a large drip torch fueled with gelled gasoline from a helicopter.

Low to moderate intensity prescription fires will be implemented from either ridgetop to approximately 1,000 feet downhill (Salmon Summit to Election Gap; Election Gap to New River; Salmon Summit to Fawn Ridge), ridgetop down to creeks (Megram Ridge to Virgin Creek, Slide Creek, and North Fork Creek; Fawn Ridge to New River; Two Mile Ridge to Virgin Creek; Six Mile Ridge to Virgin Creek; Soldier Ridge to Virgin Creek), or ridgetop to wilderness boundary (Two Mile Ridge, Six Mile Ridge, Soldier Ridge). Low intensity fires have a flame length between 0-4 feet high and remain limited to the forest floor. Moderate intensity fires have a flame length between 4-8 feet high and may burn the forest floor, or individual or small groups of trees.

Approximately 4,506 acres of riparian reserve habitat is proposed for prescribed fire treatments. In order to minimize effects of prescription burn activities, the following Resource Protection Measures will be implemented:

1. Prescribed fire will not be ignited within riparian reserves. Fires mimicking a low-intensity backing fire will be allowed to back into riparian reserves.
2. Riparian canopy will not be reduced below 80 percent of existing cover.
3. Prescribed fire will be designed to retain large dead woody debris (LWD; > 12 inches) to meet the range of historic levels.
4. To minimize the potential for cumulative adverse effects of prescribed burning, no more than ten percent of a watershed will be burned in any one year.
5. Prescribed fire will be kept at low severity in active landslide areas and inner gorges.

Existing Trail and Fireline Maintenance

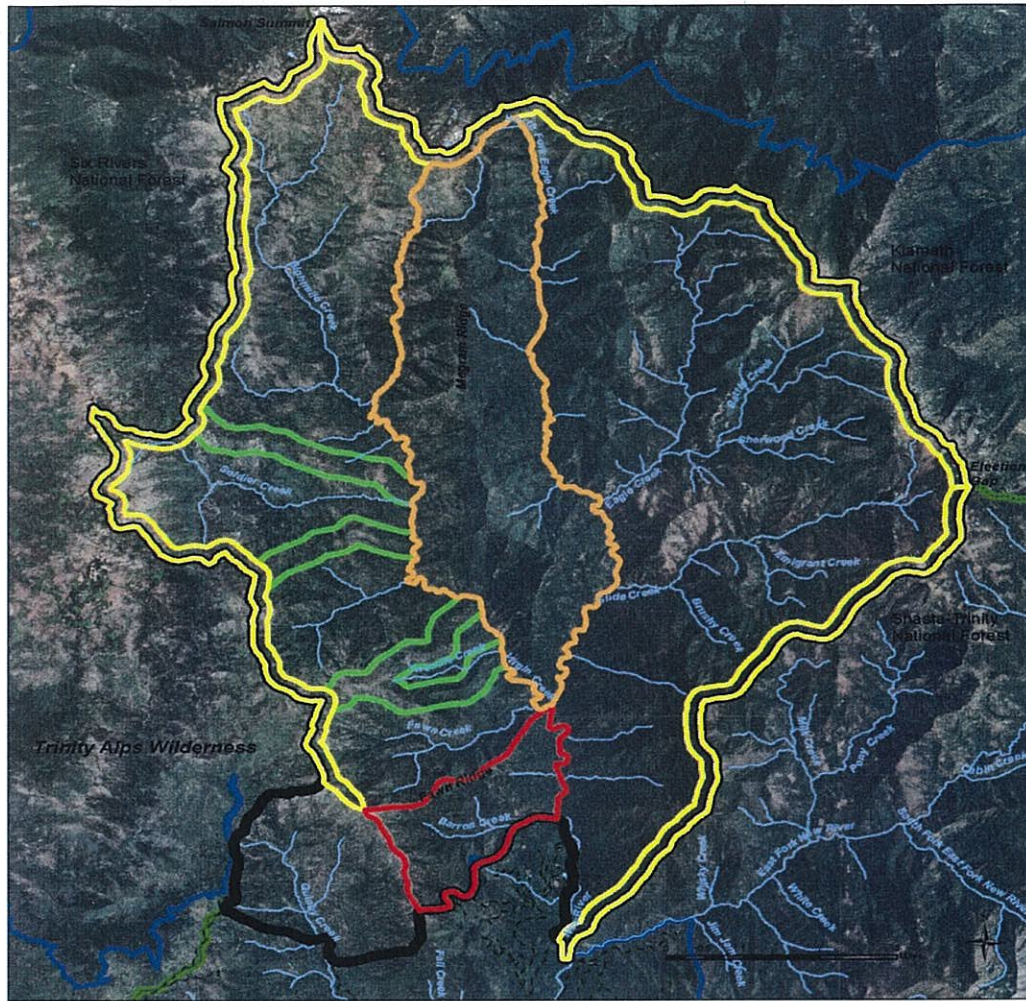
Existing trails and firelines will be maintained during project implementation. Maintenance activities such as brush slashing, pruning, and lopping and scattering will occur, as well as dispersal of large downed wood. Generally hand tools will be used, unless deemed unsafe in which case chain saws will be used.

Hazardous Tree Removal

Hazardous trees, or trees with a structural defect that will likely cause failure to all or part of the tree, will generally be avoided during the project implementation. However, in uncommon instances where hazardous trees cannot be avoided, they will be taken down.

When possible, danger trees will be blasted to avoid the unnatural appearance of stumps. When this is not possible, trees will be cut as close to the ground as possible and stumps will be covered with on site vegetation. Hand saws will be used to fell trees, unless it is deemed unsafe in which case chain saws will be used.

Trinity Alps Wilderness Prescribed Fire Project: Alternative 3 with Imagery



- Project Area Boundary
- Ridgetop ignition:
 - Back fire approx. 1000 ft. down each slope
- Ridgetop ignition:
 - Back fire approx. 1000 ft. down slope
- Ridgetop ignition:
 - Back fire down to creeks
- Ridgetop ignition:
 - Back fire to wilderness boundary
- Trinity Alps Wilderness
- National Forest Land
- Non National Forest Land
- National Recreation Area
- National Forest System Road
- National Forest System Trail
- Perennial stream

NAD83; UTM Zone 10N
Data from GHF SDE, GL or Image Server
Imagery from National Aerial Imagery Program
All data are approximate, intended for illustrative purposes.
Map date: 04/2012; Map created for GHF by VMS Enterprise Unit

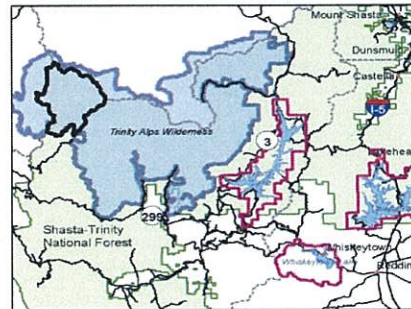


Figure 1. Trinity Alps Wilderness Prescribed Fire Project.

Action Area

The action area for the Trinity Alps Fuel Reduction project encompasses approximately 19,100 acres in the upper New River Watershed. Eight sub-watersheds (Eightmile, Sixmile-Virgin, Lower Slide, Twomile-Virgin, Barron-Carraway, North Fork Eagle, Eagle-Slide, and Quinby Creek) collectively represent 41 miles of designated critical habitat for SONCC coho salmon. Approximately 4,506 acres of riparian reserve habitat is proposed for prescribed fire treatments (Table 1).

Watershed Name	Total Watershed Area	Acres Riparian Reserve Proposed for Prescription Fire	% Watershed Proposed for Prescribed Fire Treatment
Eightmile Creek	6,967	202	19
Sixmile Creek-Virgin Creek	9,525	1,383	53
Lower Slide Creek	8,254	418	18
Twomile Creek-Virgin Creek	7,506	741	40
Barron Creek-Caraway Creek	10,587	526	26
North Fork Eagle Creek	7,697	7,063	56
Eagle Creek-Slide Creek	10,056	173	11
Quinby Creek	5,630	0	<1

Table 1. Summary of Proposed Prescribed Fire Treatment Acres, Trinity Alps Wilderness Prescribed Fire Project.

Effects of the Proposed Action

Prescription burn activities in the Trinity Alps Wilderness upper New River Watershed may affect SONCC coho salmon or their critical habitat by increasing sediment input, reducing riparian canopy cover, increasing stream temperature, decreasing large woody debris (LWD), and introducing toxins.

Prescription fires may burn away surface vegetation on slopes, potentially increasing sediment input in upper New River watershed tributaries. Prescription fire activities are

generally confined to ridge tops, with the exception of areas in the Virgin Creek and upper New River watersheds (currently designated as SONCC coho critical habitat). Fires will be lit from ridge tops by hand during damp conditions in the fall or spring, and are expected to burn at a low intensity once they reach riparian reserves. Steep areas prone to erosion are not expected to de-stabilize due the preservation of vegetative cover. In addition no more than 10 percent of a watershed will be burned in one year. Any increases in sediment loads resulting from the proposed action are expected to be minimal in nature and short in duration until ground cover regrows. Therefore, we expect the effects of increases in sediment contributions to SONCC coho salmon and their critical habitat in the upper New River watershed to be insignificant.

In riparian reserve inner gorges and landslide areas, prescribed fire will be kept to low intensity. Riparian areas have moister and cooler microclimate conditions than adjacent uplands, contributing to higher moisture in soils and fuels, which may lower the intensity and severity of the fire as well as fire advancement (Dwire and Kauffman 2003). In a study of fire with wildfire conditions in Northern California that included riparian areas, researchers found that fire self-extinguished when it came in contact with moist soil and riparian vegetation (Beche et al., 2005). Low intensity fire is expected to burn only the forest floor; canopy cover will be maintained to at least 80 percent of existing levels and root structure and soil fertility will be preserved. Any damaged riparian areas are expected to recover and regrow. Therefore, we expect the effects from temporary reductions in riparian canopy cover and increases in stream temperatures on SONCC coho salmon and their critical habitat to be insignificant.

Escaped prescribed fire may cause unintended resource and economic damage. However, these occurrences are extremely rare relative to the large number of prescribed fires that are successfully conducted (Graham et al., 2004). Implementing prescribed fire when climatic and fuel variables are considered optimal for the desired fire behavior increases the likelihood of successfully meeting objectives and reduces the risk of escaped prescribed fire (Newburn 2011). Prescription fire activities may burn downed logs, reducing the available of LWD to upper New River watershed tributaries. However, Project activities will be designed to retain large woody debris in the Project area to restore LWD abundance to historic levels and retain soil organic matter. LWD input is not expected to decrease as a result of project activities. Therefore, the potential effects of the proposed action on LWD recruitment for SONCC coho salmon designated critical habitat in the Upper New River Watershed are discountable.

Fuel deployment will occur over ridge tops and all residual fuels are expected to fully combust. Therefore, the risk of potassium permanganate injected with ethylene glycol or gelled gasoline entering a waterway is minimal. Thus, the potential effects of toxins entering a waterway on SONCC coho salmon or its designated critical habitat are discountable.

ESA Conclusion

Based on the review of provided documents and current understanding of SONCC coho salmon and critical habitat within the project area, NMFS concurs with the determination that the proposed action may affect, but is not likely to adversely affect federally threatened SONCC coho salmon or its designated critical habitat. This concludes ESA consultation in accordance with 50 CFR 402.14(b)(1) for the proposed project. Further consultation may be required if: (1) new information reveals effects of the action may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) current project plans change in a manner that causes an effect to the listed species or critical habitat that was not previously considered; or (3) a new species is listed or critical habitat designated that may be affected by the project.

EFH Consultation

The Pacific Fishery Management Council delineated EFH for Pacific Coast salmon (Chinook salmon and coho salmon) under the Pacific Coast Salmon Fishery Management Plan, pursuant to § 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1855(b)). Designated EFH for Chinook and coho salmon includes all streams and tributaries with historical presence (NMFS 2011). Within the action area, coho and Chinook salmon EFH occurs in the New River and its tributaries throughout the range of anadromy (Smith 2012). New River tributaries are designated as coho salmon EFH; Chinook salmon. The EFH implementing regulations [50 CFR § 600.810(a)] define the term *adverse effect*, in part, as:

any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce quality and/or quantity of EFH.

As described in the project BA (Smith 2012), project-related increases in turbidity are not likely to occur. Prescribed fire activities in the upper New River watershed are generally confined to ridge tops, with the exception of areas in the Virgin Creek watershed where prescribed fire will be kept to low intensity in landslide areas and inner gorges. Conducting the prescription burn during damp conditions is expected to burn overgrown brush and grass, but will allow large established conifers and other tree species to remain on site and provide slope stability with their roots. Any increases in sediment loads resulting from the proposed action are expected to be minimal in nature and short in duration until ground cover regrows. Short-term reductions in riparian canopy cover could result in slight increases in stream temperature. However, riparian cover is not expected to decrease below 80 percent of existing levels, and is expected to regrow. Project activities will be designed to retain large woody debris in the Project area to restore LWD abundance to historic levels and retain soil organic matter. The increases in turbidity and reductions in canopy cover are expected to result in temporary (both spatially and temporally) reduction in the water quality of the action area. However, the anticipated adverse effects are so minimal in nature that no EFH Conservation

Recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH.

EFH Conclusion

NMFS concludes that the project may adversely affect EFH for Chinook salmon and coho salmon. This concludes EFH consultation for the project. Pursuant to 50 CFR 600.920(l), the EFH consultation must be reinitiated if the proposed action is substantially revised in a way that may adversely affect EFH. If you have any questions regarding this consultation, please do not hesitate to contact staff member Catherine McGourty via email at Catherine.McGourty@noaa.gov.

Sincerely,



Irma Lagomarsino
Northern California Office Supervisor

References

Beche, Leah; Stephens, Scott; Resh, Vincent. 2005. Effects of prescribed fire on a Sierra Nevada (California, USA) stream and its riparian zone. *Forest Ecology and Management* 218: 37-59.

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